

# MADISON VALLEY ON-STREET PARKING STUDY FINDINGS REPORT



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for the  
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*Photos by SDOT staff*

## 1. Introduction

This report presents findings of the June 2010 parking study for Madison Valley, an area with a mix of restaurants, bars, specialty retail, and residential uses. The study purpose was to document how often and for how long parking spaces are used during typical daytime and evening hours, and on a typical Saturday afternoon. The data and analysis will help the Seattle Department of Transportation (SDOT) determine if changes in parking management techniques are needed. These findings provide information about:

- location, quantity and utilization of parking spaces
- compliance rates with signage and duration of parking
- parking characteristics in Zone 23, the neighborhood's restricted parking zone (RPZ)

Figure 1 shows the blocks that were studied, and the three study subareas: 1) on E Madison St, 2) off E Madison St, and 3) Zone 23. Heffron Transportation, Inc. collected the parking inventory and provided it to SDOT for entry into the City's database.



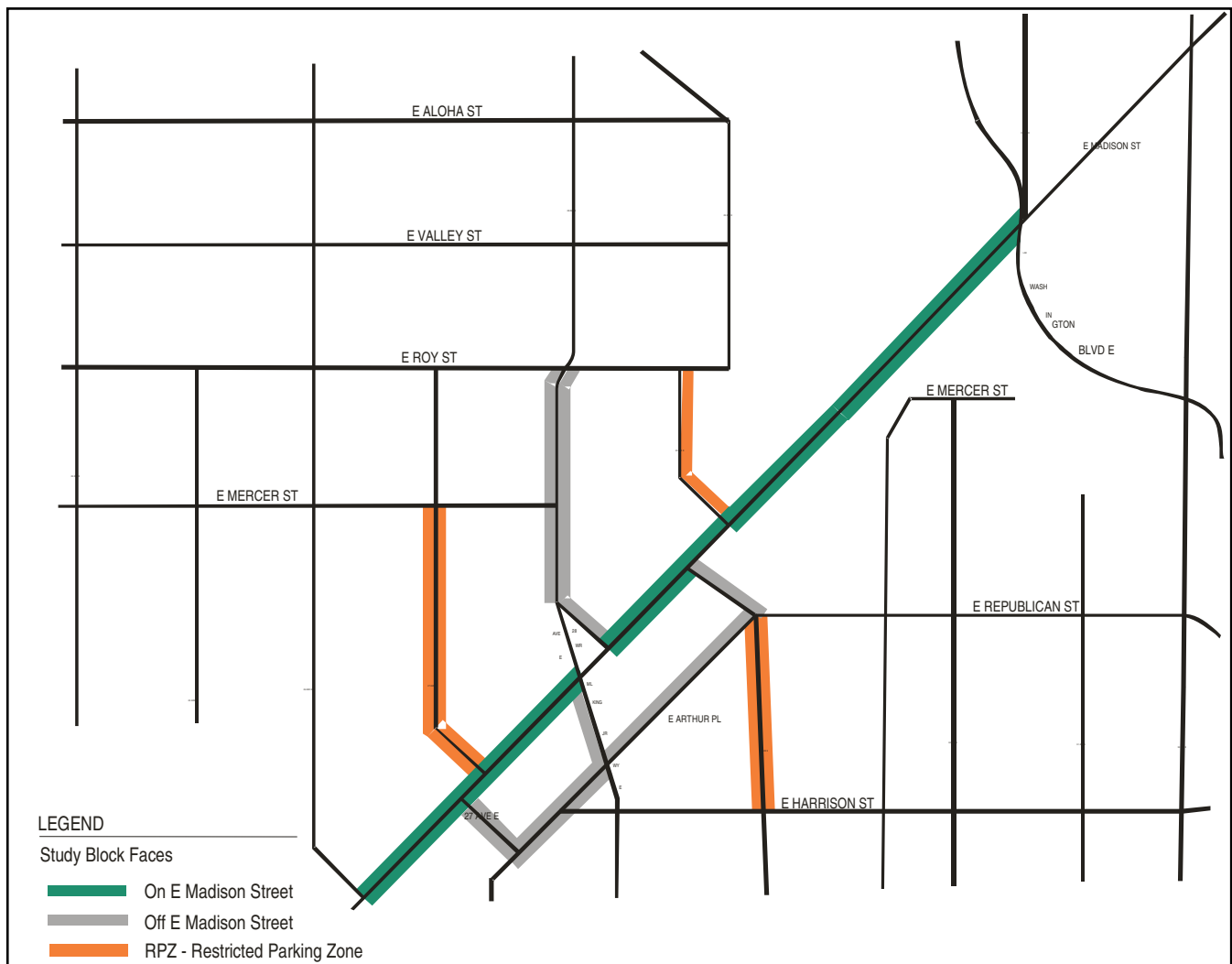
*The Madison Valley business district is a mix of restaurants, bars, specialty retail, and residential uses. This study examined parking conditions in and around the central Madison St corridor.*

## 2. Study Methodology

### Data Collection

Parking demand data were collected on Saturday, June 12, 2010 and on Tuesday, June 15, 2010. Operations Management Group (OMG), Inc. collected license plate information using a hand-held electronic data collection tool. A sequence number was assigned to every parking space within each map segment to ensure consistency in data collection. The inventory and sequence numbers included all parking spaces by type, and all areas where parking is not allowed, such as bus zones, driveways, and hydrants. In addition to recording vehicles parked in legally-designated spaces, the data included “squeeze-in vehicles” on each street segment, which represent motorists who created their own space between other vehicles, at the end of the block, or in “no-parking” zones. The squeeze-in vehicles are included in the parking counts to reflect the total demand for on-street parking.

**Figure 1. Study Area**



The survey data were collected for block faces and time intervals based on subareas and parking restriction types. The survey periods are listed below.

#### **Weekday**

- Blocks on E Madison St were surveyed 9 times from 11:00 AM to 8:00 PM
  - One-hour time limit spaces were surveyed every 30 minutes
  - Two-hour time limit and unrestricted spaces were surveyed every hour
- Blocks off of E Madison St were surveyed from 11:00 AM to 8:00 PM
- Blocks in Zone 23 were surveyed from 11:00 AM to 5:00 PM in two-hour intervals.

#### **Saturday**

- Blocks on and off of E Madison St were surveyed 4 times from 12:00 PM to 4:00 PM
  - One-hour time limit spaces were surveyed every 30 minutes
  - Two-hour time limit and unrestricted spaces were surveyed every hour
- Blocks in the RPZ were not studied on Saturday

This study analyzes three parking indicators:

**Utilization** – The percentage of legal parking spaces that were occupied by a vehicle. Utilization rates above 100% can occur when vehicles park in illegal spaces or squeeze into marginal areas such as those near intersections, fire hydrants or driveways. The parking utilization for spaces with a 30-minute or less time limit could reflect a lower than actual rate because parking occupancy was surveyed at less frequent intervals, and some cars may have parked and left between each survey.

**Compliance** – The percentage of vehicles that parked within the established time limits. For example, the cars that parked for two hours or less in a signed two-hour zone. For the area within the RPZ, the compliance rates reflect only the cars that did **not** display an RPZ permit, because permitted vehicles are not subject to the time limits.

**Duration** – The length of time that a vehicle occupied a space. Parking duration was calculated within the duration of the survey period, which did not begin until 11:00 AM.

### Parking Capacity



The practical capacity for parking is defined at 85% utilization. When occupancy exceeds the practical capacity, drivers will experience delays and frustration while searching for a parking space. Circling the block in search of a parking space also contributes to area traffic congestion and increased vehicle emissions.

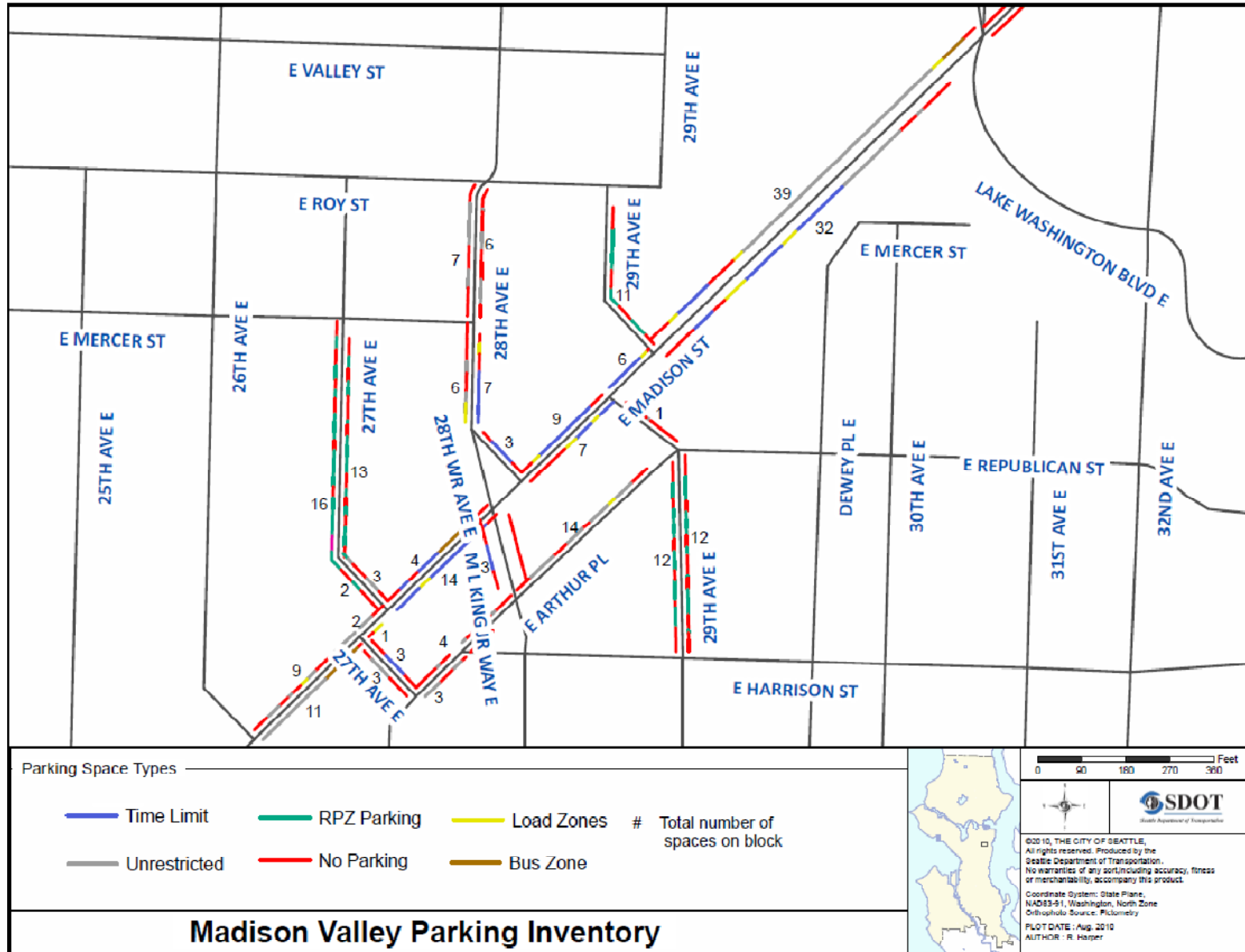
SDOT considers utilization rates above about 75% to be the threshold where additional parking management techniques should be explored through a comprehensive study. SDOT can then put measures in place before parking reaches capacity. In neighborhood business districts, SDOT uses parking management measures that support business loading and customer access. By efficiently managing parking, SDOT can also support its goal of reducing automobile trips, particularly for commuting.

## 3. Overall Inventory, Utilization, and Compliance

The parking space inventory reflects parking regulations mid-day on weekdays and Saturdays. For the most part, time-limits begin at 8:00 A.M. and end at 6:00 P.M. Figure 2 represents the parking inventory by block face. Table 1 summarizes the parking space inventory and average utilization by subarea and by study block face.



Figure 2. Madison Valley Parking Inventory



**Table 1. Madison Valley Parking Inventory and Average Utilization – Weekday**

		Signed Time-Limited Parking Spaces										
			30-Minute		1-Hour		2-Hour	Unrestricted		Totals		
			Number Spaces	Average Utilization	Number Spaces	Average Utilization	Number Spaces	Average Utilization	Number Spaces	Average Utilization	Number Spaces	Average Utilization
Block Face	Side	Boundary Streets										
E Madison Street												
	NW	26th Ave E & 27th Ave E	1	56%					8	93%	9	89%
	SE	26th Ave E & 27th Ave E							11	70%	11	70%
	NW	27th Ave E & M L King Jr Way E			4	74%					4	74%
	SE	27th Ave E & M L King Jr Way E	1	82%	13	74%					14	75%
	NW	27th Ave E & 27th Ave E	1	65%					2	83%	3	77%
	NW	28th Ave E & 29th Ave E	1	24%	8	69%					9	64%
	SE	28th Ave E & 29th Ave E	2	62%	5	88%					7	81%
	NW	29th Ave E & Lake Washington Blvd	1	0%			5	73%	31	57%	37	58%
	SE	29th Ave E & Lake Washington Blvd	5	27%			17	65%	10	76%	32	63%
	NW	29th Ave E & 29th Ave E	1	29%	5	78%					6	70%
Subtotal			13	40%	35	75%	22	67%	62	68%	132	67%
Off E Madison Street												
28th Ave E	E	28th WR Ave E & E Mercer St	1	0%			6	81%			7	69%
28th Ave E	W	28th WR Ave E & E Mercer St	2	50%					4	97%	6	81%
28th Ave E	NE	E Madison St & 28th WR Ave E			3	92%					3	92%
28th Ave E	E	E Mercer St & E Roy St							6	48%	6	48%
28th Ave E	W	E Mercer St & E Roy St							7	25%	7	25%
29th Ave E	NE	E Republican St & E Madison St							1	189%	1	189%
E Arthur Pl	NW	27th Ave E & E Harrison St							1	122%	1	122%
E Arthur Pl	SE	27th Ave E & E Harrison St							3	156%	3	156%
E Arthur Pl	NW	E Harrison St & M L King Jr Way E							3	122%	3	122%
E Arthur Pl	NW	M L King Jr Way E & 29th Ave E	1	89%					13	83%	14	83%
M L King Jr Way E	W	E Arthur Place & E Madison St			3	167%					3	167%
27th Ave E	NE	E Arthur Place & E Madison St					3	104%			3	104%
27th Ave E	SE	E Arthur Place & E Madison St							3	78%	3	78%
Subtotal			4	47%	6	130%	9	89%	41	81%	60	85%
Off-E Madison Street, RPZ 23												
27th Ave E	NE	E Madison St & E Mercer St					13	62%	3	112%	16	71%
27th Ave E	SW	E Madison St & E Mercer St					17	46%			17	46%
29th Ave E	E	E Harrison St & E Republican St					12	52%			12	52%
29th Ave E	W	E Harrison St & E Republican St					12	69%			12	69%
29th Ave E	E	E Madison St & E Roy St					11	59%			11	59%
Subtotal							65	57%	3	112%	68	59%
TOTAL												
			17	41%	41	83%	96	62%	106	74%	260	69%

Source: Heffron-conducted inventory. Parking Inventory at mid-day reflecting daytime parking restrictions. Parking restrictions are typically in effect from 8:00 A.M. to 6:00 P.M. Operations Management Group, data collection on Tuesday, June 15 2010. Compiled by Heffron Transportation, Inc.

Parking duration and the resulting compliance rates were calculated for time-limited spaces, and are summarized in Table 2.

**Table 2. Madison Valley Neighborhood Compliance Rates**

Parking Type	On E Madison Street		Off E Madison Street (not Zone 23 RPZ)		Zone 23 RPZ (Off E Madison Street)	
	# of spaces	Compliance	# of spaces	Compliance	# of spaces	Compliance
Weekday						
30-minute Signed Time-Limit	13	44%	4	0%	0	n/a
1-hour Signed Time-Limit	35	74%	6	71%	0	n/a
2-hour Signed Time-Limit	22	98%	9	88%	65	98%
Saturday						
1-hour Signed Time-Limit	35	85%	6	40%	0	n/a
2-hour Signed Time-Limit	22	100%	9	100%	65	n/a

Source: Parking data collected on Tuesday, June 15, 2010, and Saturday, June 12, 2010. Compiled by Heffron Transportation, Inc.

Parked cars with restricted parking permits are not subject to the time limit, and were not included in the compliance calculation; 46 cars that parked in the RPZ did not have Zone 23 permits.

## 4. Weekday Findings

The weekday survey was conducted from 11:00 AM to 8:00 PM on Tuesday, June 15, 2010. The following sections describe weekday utilization and compliance data for each of the study's three subareas. They also outline duration findings for unrestricted parking spaces.

### Along E Madison St

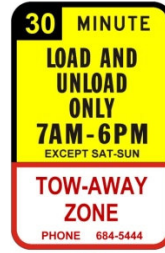
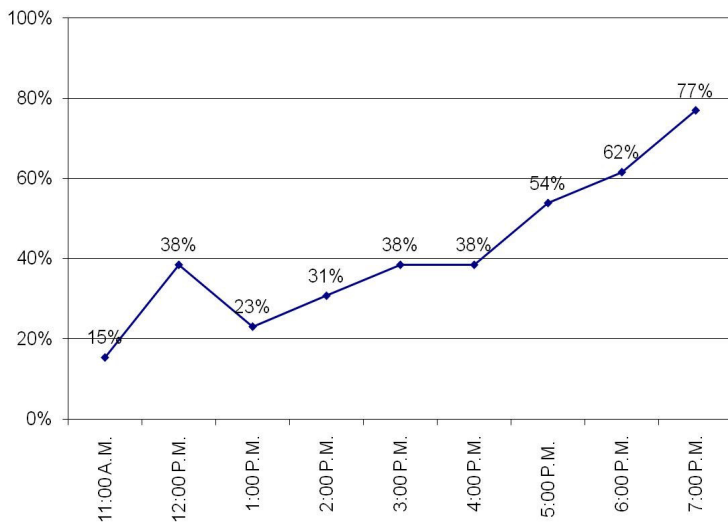
Most block faces include a 30-minute load/unload zone. Within the study area, there are 13 load zones, six of which are restricted to commercial vehicle use only. Overall, Madison Valley load zone utilization rates are typical when compared to other parking studies throughout the city. Figure 3 represents the utilization of these 30-minute spaces.

The heart of the Madison Valley business district consists of a mix of one-hour and two-hour time-limited spaces. Figures 4 and 5 represent the utilization of these space types.





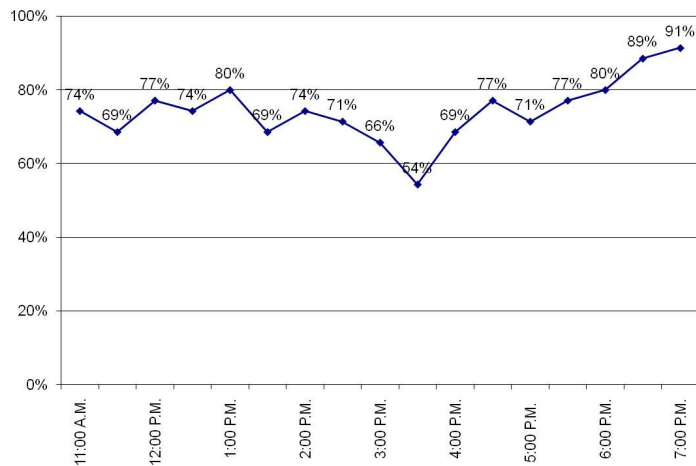
**Figure 3. Utilization for 30-Minute Load Zones**



**Key Findings**

- 13 spaces
- 15%-38% full from 11AM-4PM
- 54% full at 5PM, 77% at 7PM
- 44% compliance

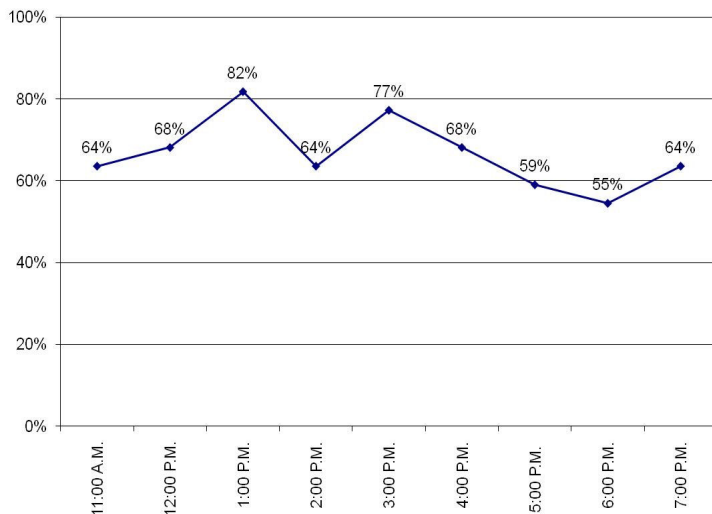
**Figure 4. Utilization for One-hour Time-Limited Spaces**



**Key Findings**

- 35 spaces
- Average utilization 75%
- 91% full at 7PM
- 74% compliance

**Figure 5. Utilization for Two-hour Time-Limited Spaces**

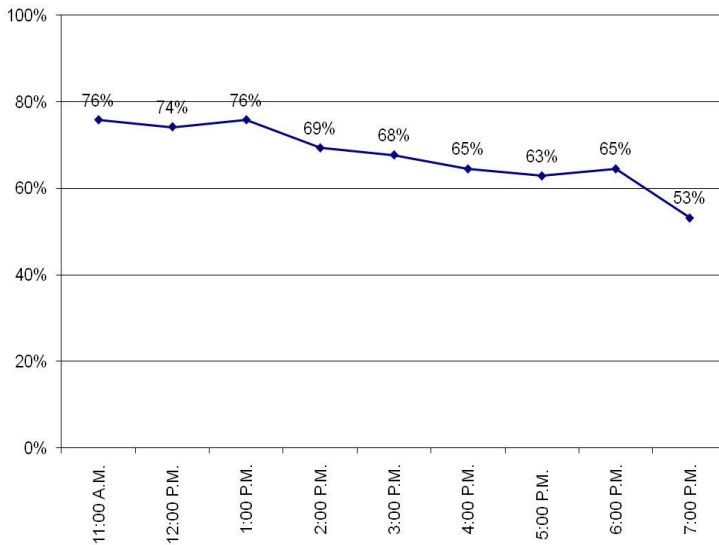


**Key Findings**

- 22 spaces
- Utilization ranged from 55% to 82%
- Peak occurred at 1PM
- 98% compliance rate

Figures 6 and 7 examine unrestricted spaces along E Madison St. These spaces are mostly found outside the heart of the business district.

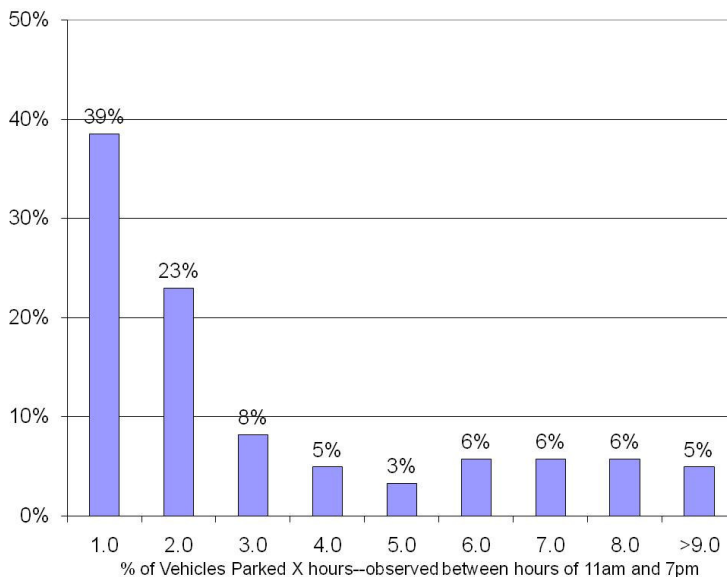
**Figure 6. Utilization for Unrestricted Spaces**



**Key Findings**

- 62 spaces
- Utilization ranged from 53% to 76%
- Peak occurred at 11AM and 1PM
- Average turnover was 2 vehicles per space during the surveyed time

**Figure 7. Parking Duration for Unrestricted Spaces on E Madison St**



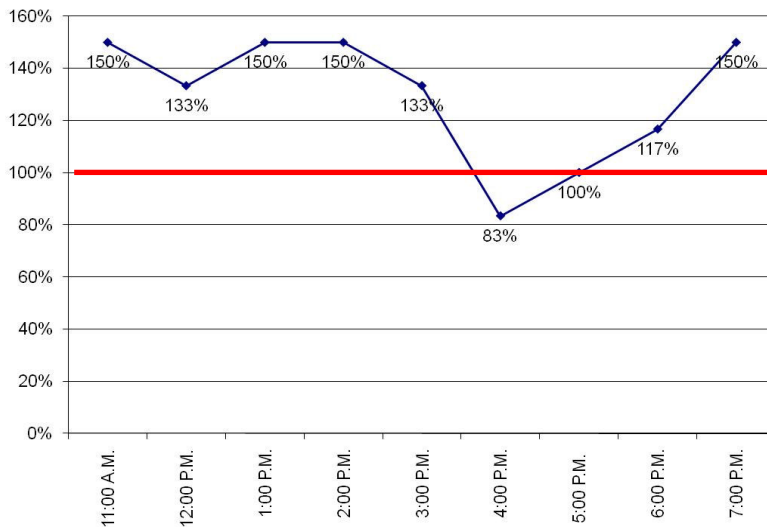
**Key Findings**

- 122 total parked vehicles during survey time
- 48 vehicles present at 11AM
- Average duration of a parked car during surveyed time period was 3.1 hours
- 20% of the vehicles (25 vehicles) that were parked at 11AM stayed until at least 4PM

## Off E Madison St

There are only four 30-minute load/unload zones on block faces off E Madison Street, so these results are not graphed. Average weekday utilization for these spaces ranged from 25% to 50%. Figures 8 and 9 show utilization for 1 and 2-hour time-limited spaces, though there are not many time-limited spaces off E Madison St. Figure 10 shows utilization for unrestricted spaces; these spaces are more full than the unrestricted spaces directly on E Madison St. Figure 11 shows duration information for these unrestricted spaces.

**Figure 8. Utilization for One-hour Time Limited Spaces**



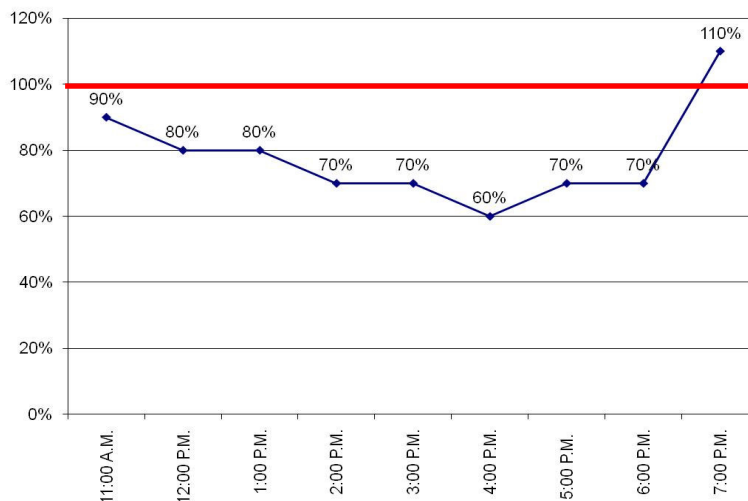
*Squeeze-in parking at one-hour spaces is high on two short blocks. Cars are parking very close to the intersection, despite 20-foot and 30-foot no parking rules.*



**Key Findings**

- 6 spaces
- 83% to 150% full
- 71% compliance

**Figure 9. Utilization for Two-hour Time-Limited Spaces**



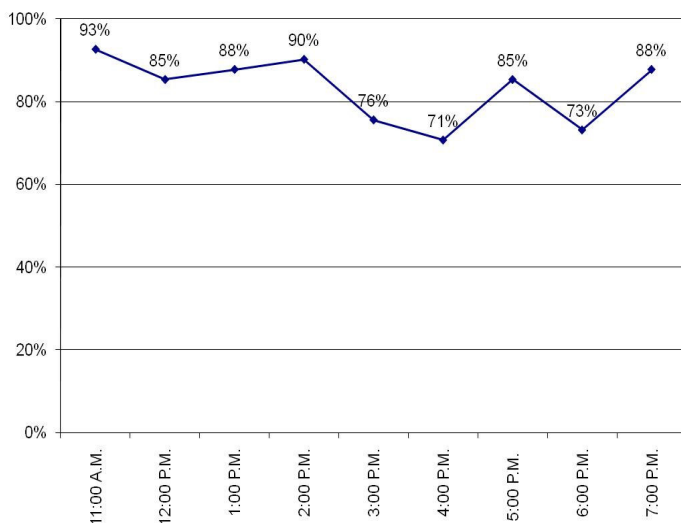
*Squeeze-in parking*



**Key Findings**

- 9 spaces
- 60% to 110% full
- 88% compliance

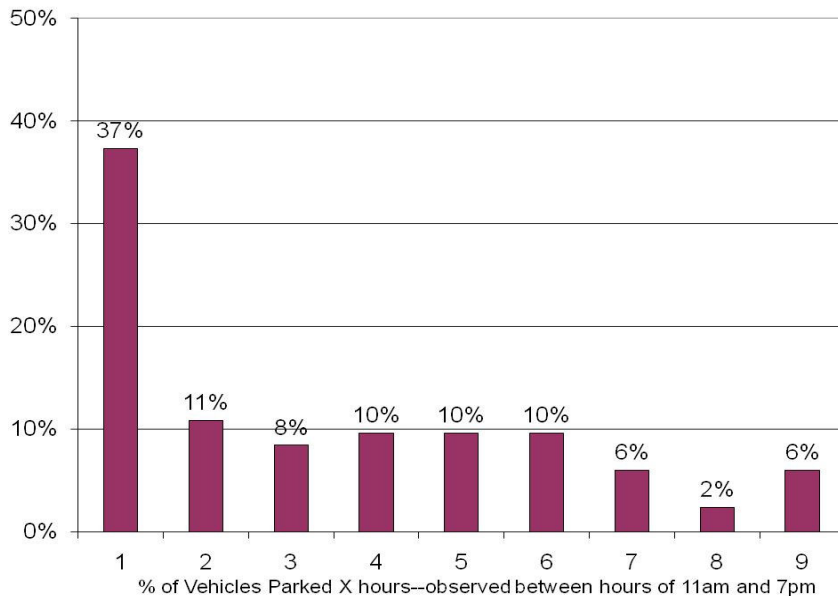
**Figure 10. Utilization for Unrestricted Spaces**



**Key Findings**

- 41 spaces
- Utilization ranged from 71% to 93%
- Average turnover was 2 vehicles per space during the surveyed time

**Figure 11. Parking Duration for Unrestricted Spaces off E Madison St**



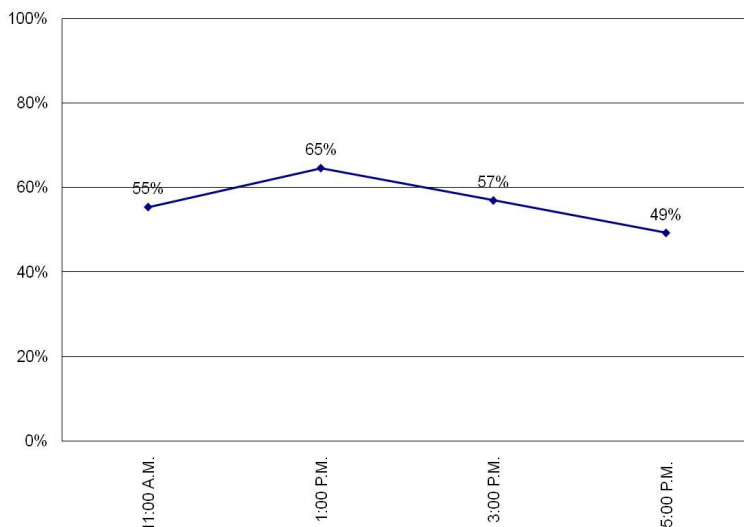
**Key Findings**

- 83 total parked vehicles during survey time
- 34 vehicles present at 11AM
- Average duration of a parked car during surveyed time period was 3.45 hours
- 22% of the vehicles (18 vehicles) that were parked at 11AM stayed until at least 4PM

**Restricted Parking Zone 23**

Parking demand data were collected in two-hour intervals in the Zone 23 restricted parking zone (RPZ). The **compliance** rate reflects only the cars that did **not** display an RPZ permit, because permitted vehicles are not subject to the time limits.

**Figure 12. Utilization for Two-Hour/Zone 23 Spaces**



**Key Findings**

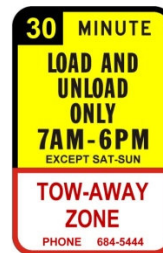
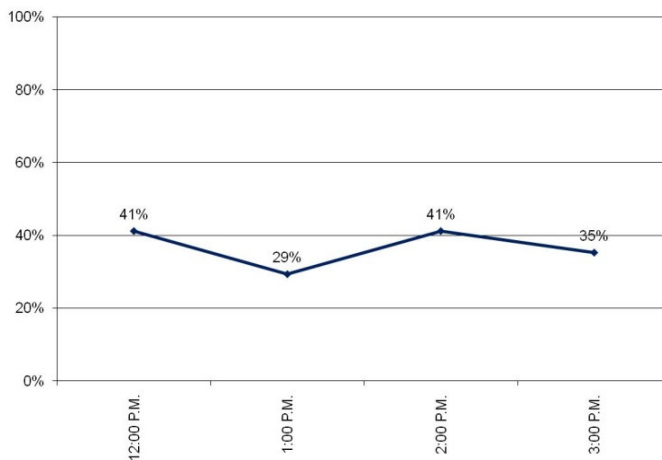
- 65 spaces
- Peak occurred at 1 PM
- 98% weekday compliance for cars without permits

There are also three unrestricted parking spaces in the Zone 23 subarea (located on the northeast side of 27<sup>th</sup> Ave E immediately north of E Madison St). These were fully occupied except at 3:00 PM when 2 of 3 spaces were occupied. Average duration of the vehicles in these spaces (5 in total) during the surveyed time period was 3.4 hours.

## 5. Saturday Findings

Parking utilization data were summarized by type of restriction for Saturday demand data collected on June 12, 2010. Utilization was similar to weekday conditions for most parking restriction types, though it was a bit lower for one-hour time-limited spaces. The compliance rate for one-hour signed time-limited spaces was higher on Saturday for E Madison St. spaces than on a weekday, but very low for the off E Madison St spaces. The parkers utilizing the two-hour time-limited spaces, however, were fully compliant with those regulations. The graphs below summarize the space types with E Madison St spaces and off of E Madison St spaces combined.

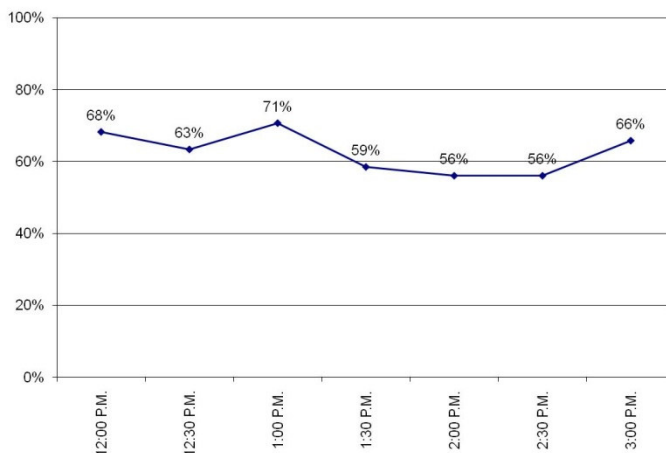
**Figure 13. Utilization for 30-minute Load Zones**



### Key Findings

- 17 spaces total
- Utilization low
- Compliance low

**Figure 14. Utilization for One-hour Time-Limited Spaces**

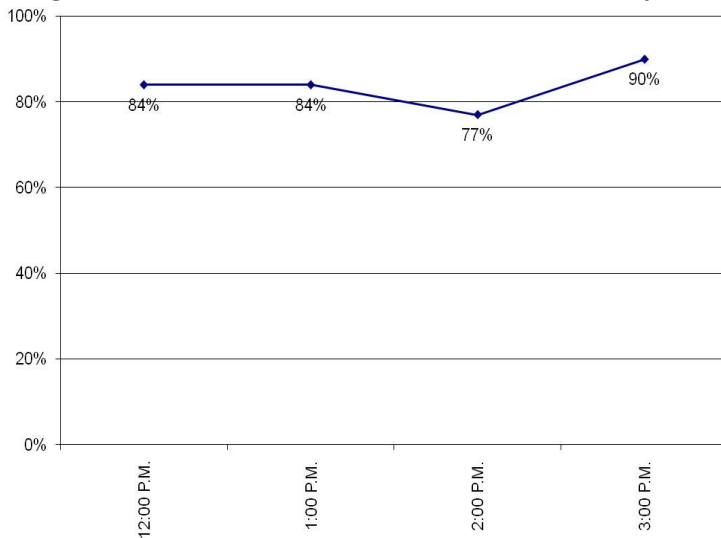


### Key Findings

- 41 spaces total
- Compliance: 85% on E Madison
- Compliance: 40% off E Madison



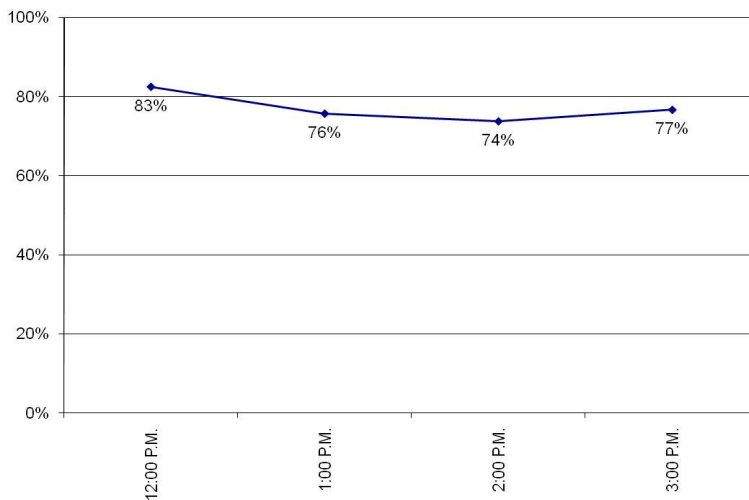
**Figure 15. Utilization for Two-hour Time-Limited Spaces**



**Key Findings**

- 31 spaces total
- Compliance: 100% on E Madison and off E Madison

**Figure 16. Utilization for Unrestricted Parking Spaces**



**Key Findings**

- 103 spaces total
- 132 total parked vehicles during survey time
- Average turnover was 1.3 vehicles per space during the surveyed time
- Average duration of a parked car during surveyed time period was 2.39 hours
- 37% of the vehicles (49 vehicles) were parked during the entire survey period

On E Madison St, a total of 79 vehicles parked in the unrestricted spaces; 28 of these were parked during the entire survey period. Thirty-eight percent of the vehicles (30 cars) parked for one hour or less.

Off of E Madison St, a total of 53 vehicles parked in the unrestricted spaces; 21 of these were parked during the entire survey period. Forty-three percent of the vehicles (23 cars) parked for one hour or less.

In general, the Saturday data shows a lower turnover for unrestricted spaces than the weekday data, though the survey period was much shorter.